

Amendments to the Drawings:

No amendments are made to the Drawings herein.

REMARKS

By the foregoing Amendment, Claims 1 and 10 are amended, and Claims 8, 9, 14 and 15 are cancelled. Entry of the Amendment, and favorable consideration thereof, is earnestly requested. Applicant believes that the entry of this Response is proper as it places the application in condition for allowance and makes no substantive amendments to the Claims other than to rewrite Claim 9 in independent form by incorporating it, and intervening Claim 8, into Claim 1. Claim 10 is amended merely to change its dependency, and Claims 8, 9, 14 and 15 are cancelled. Thus Claims 1-8 and 10-13 remain pending.

Claim 9 (which has been rewritten in independent form as amended Claim 1) and Claim 13 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Konstorum et al. (U.S. Patent No. 6,749,560) in view of Abe et al. (U.S. Patent No. 6,540,669) in further view of Ouchi et al. (U.S. Patent No. 4,899,787). Applicant respectfully asks the Examiner to reconsider this rejection in view of the following Remarks.

The present invention is directed to an endoscope insertion shaft that includes a tubular member having an axis and including at least one aperture for imparting desirable mechanical characteristics to the shaft, along with a composite, laminated or fused sheath having a plurality of layers encasing or jacketing the tubular member. Claims 1 and 13, all independent claims, have been amended to more specifically recite the specific construction of the sheath, and each claim now requires, among other limitations, (i) a tubular member having an axis and including at least one aperture for increasing the flexibility thereof, (ii) a braided layer jacketing the tubular member, (iii) a barrier layer disposed between the tubular member and the braided layer and jacketing the tubular member, (iv) a laminating layer, and (v) a wear layer.

Applicant respectfully submits that none of the cited prior art, either alone or in combination, discloses, teaches or suggests an endoscope insertion shaft having this configuration.

Konstorum et al. discloses an endoscope having a tube 40 having an axis and a plurality of apertures 46 for increasing the flexibility thereof, along with a cover 32. Moreover, as recognized by the Examiner, Konstorum et al. does suggest that the "cover could also include a structural reinforcement." (see column 5, lines 8-15). Thus, at most, Konstorum et al. could be considered as suggesting two layers (i.e., the cover 32 and possibly the structural reinforcement), in addition to the tube 40. As such, Konstorum et al. can not anticipate either of Claims 1 or 13, which all require at least four very specific layers (i.e., a braided layer, a barrier layer, a laminating layer, and a wear layer) in addition to the tubular member.

Thus, the Examiner cites a combination of Konstorum et al. and Abe et al. as teaching a sheath having four layers in addition to the tubular member. Applicant does not disagree that a combination of Konstorum et al. and Abe et al. may result in an endoscope shaft having a tubular member (as taught by Konstorum et al.) and a sheath having four layers (as taught by Figure 5 of Abe et al.). However, Applicant points out that both of Claims 1 and 13 require a very specific configuration for the sheath, particularly that the sheath include a barrier layer disposed between the braided layer and the tubular member. Applicant also points out that even if Konstorum et al. and Abe et al. were combined as suggested by the Examiner, the resulting hypothetical device would *not* have a barrier layer disposed between the braided layer and the tubular member, as is required by all claims, as amended.

The Examiner apparently recognizes this deficiency of the Konstorum et al. and Abe et al. combination, and cites Ouchi et al. for the proposition that "it is understood that the construction of the tube's layers is not limited to any particular order." However, even assuming that this proposition is true, Applicant respectfully submits that a combination of Ouchi et al. with Konstorum et al. and Abe et al. still would not render obvious the present invention, as claimed.

It is well settled that the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination or modification. *In re Mills*, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990). Clearly, as is even recognized by the Examiner, the Konstorum et al. and Abe et al. combination does not disclose, teach or suggest in any way a barrier layer disposed between the braided layer and the tubular member. Moreover, even if Ouchi et al. teaches that the layers of a laminated or composite endoscope shaft could be re-ordered (i.e., that the Konstorum et al. and Abe et al. combination can be modified), there is nothing whatsoever in Ouchi et al. that suggests the desirability of the modification to the Konstorum et al. and Abe et al. combination necessary to arrive at the present invention, as claimed (i.e., that a barrier layer be disposed between the braided layer and the tubular member).

Furthermore, it is also well settled that if a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). In the present case, one of the main concerns of Abe et al. (the reference cited for its teachings of providing a multi-layer sheath) is to provide a construction where the

sheath is securely bonded to the core of the endoscope. This is achieved in both embodiments disclosed in Abe et al. (i.e., those shown in both Figures 1 and 5) by allowing the outer cover (3), or specifically the inner layer (32) thereof in the case of a multi-layer outer cover, to flow through openings in the braided layer (22), to contact the coil (21), and to create protrusions (31) that extend into the gaps (25) of the coil (21). *This would not be possible if a barrier layer were provided between the braided layer (22) and the coil (21).* Instead, the barrier layer would prevent flow of the outer cover (3), or the inner layer (32) thereof, from contacting the coil (21) and from forming protrusions (31) that extend into the gaps (25).

In view of the above, Applicant respectfully submits that, not only is there no suggestion provided in the cited prior art as to the desirability of the modifications and combinations necessary to arrive at the present invention, as claimed, but also that the cited prior art expressly teaches away from these modifications and combinations.

For the foregoing reasons, Applicant respectfully submits that all pending claims, namely Claims 1-8 and 10-13, are patentable over the references of record, and earnestly solicits allowance of the same.

Respectfully submitted,



Wesley W. Whitmyer, Jr., Reg. No. 33,558
Todd M. Oberdick, Reg. No. 44,268
ST. ONGE STEWARD JOHNSTON & REENS LLC
986 Bedford Street
Stamford, Connecticut 06905-5619
(203) 324-6155
Attorneys for Applicant